REMARKS

/I/ Amendments to the claims

In accordance with the foregoing, claim 1, 3, 4, 5, 9, 10, 11, 13, 14, 16, 22 and 26 have been amended. Claim 2 has been cancelled and claim 27 had been added. Claims 1 and 3-27 are pending and under consideration.

As seen in the Proposed Amendment, in order to more clearly define the present invention, the Applicants have instantly amended claim 1 to incorporate the limitation of claim 2 into claim 1. More specifically, a phenyl group and a hydroxyl group have been deleted from the examples of R group of each of formulae (1) to (3) recited in claim 1. Support for this amendment is found at page 57, lines 7 to 19 of the present specification. In accordance with this amendment, claim 2 has been cancelled, and also the dependency of the claims has been changed.

In order to render clearer the construction of the modified photocatalyst particles (A), there has been added new clam 27 which states that the modified photocatalyst particles (A) comprise the particles of a photocatalyst (a) and, immobilized thereon, the at least one modifier compound (b). Support for this amendment is found at page 33, lines 14 to 18 of the present specification.

/II/ The state of the art and the features and potential advantages of the present invention

(II-1) Background information

Before specifically discussing the rejection of the claims, it is believed that the following background information should be considered to shed a proper light on the development of the present invention and the advantageous features thereof. As described under "Prior Art", as examples of chemical reactions catalyzed by the photocatalysts, there can be mentioned oxidative decomposition reactions of various organic substances. Therefore, when the photocatalysts are immobilized on the surfaces of various substrates, it is possible to cause various organic substances which have adhered to the surfaces of the substrates to undergo oxidative decomposition by light irradiation. On the other hand, it is known that, when photocatalysts are irradiated with light, the hydrophilicity of the surfaces of the photocatalysts is increased. Therefore, when photocatalysts are immobilized on the surfaces of various substrates, it is possible to increase the hydrophilicity of the surfaces of the substrates by light irradiation.

In recent years, studies have been made for realizing application of the above-mentioned properties of photocatalysts to various fields, such as the field of environmental clean-up, fields in which it is necessary to prevent dirt from adhering to the surfaces of various substrates, and fields in which it is necessary to prevent fogging from occurring on the surfaces of various substrates. For enabling such applications, the method for immobilizing photocatalysts on the surfaces of various substrates has a great importance.

With respect to the method for immobilizing a photocatalyst on the surface of a substrate, various proposals have been made. Of these methods which have been proposed, one which has been attracting attention as being especially advantageous is a method for immobilizing a photocatalyst on the surface of a substrate, in which a composition contain-

ing a photocatalyst is coated on the surface of a substrate to thereby form a photocatalyst -containing film thereon.

In the above-mentioned method for immobilizing a photocatalyst by coating, it is required:

① that the photocatalyst be strongly immobilized on the surface of the substrate without suffering a lowering of the activity of the photocatalyst, and

② that any of the film formed and the substrate covered with the film formed be not deteriorated by the action of the photocatalyst.

For immobilizing a photocatalyst by coating, various methods have conventionally been proposed.

However, as described in detail in the item "Prior Art" of the present specification, no method has yet been known which is for immobilizing a photocatalyst on the surface of a substrate by coating and which satisfies both of the above-mentioned requirements ① and ② without a need of a cumbersome operation.

One potential object of the present invention is to provide a technique for immobilizing a photocatalyst, the technique satisfying both of the above-mentioned requirements ① and ② without a need of a cumbersome operation.

In this situation, the present inventors have made extensive and intensive studies with a view toward solving the above-mentioned problems. As a result, it has unexpectedly been found that this object can be attained by a photocatalyst composition which comprises (A) modified photocatalyst particles, the modified photocatalyst particles (A) being prepared by subjecting particles of a photocatalyst to a modification treatment with at least

one modifier compound selected from the group consisting of different compounds each of which independently comprises at least one structural unit selected from the group consisting of a triorganosilane unit, a monooxydiorganosilane unit and a dioxyorganosilane unit; and (B) a binder component comprising a phenyl group-containing silicone, optionally containing an alkyl group. Specifically, it has been found that, when the above-mentioned photocatalyst composition is used to form a film on the surface of an organic substrate, there can be obtained, without a cumbersome operation, a functional composite which is advantageous in that it is free from deterioration occurring at the interface between the substrate and the photocatalyst-containing film and free from deterioration of the binder component in the photocatalyst-containing film, and in that it exhibits an excellent balance of hardness and flexibility (impact resistance), and it has excellent durability such that the surface of the functional composite exhibits, by light irradiation, a water contact characteristic (i.e., hydrophilicity or hydrophobicity) and/or maintains such photocatalyst activity for a long time. Based on this finding, the photocatalyst composition was developed.

As described in the present specification, the excellent effects of the photocatalyst composition are presumed to be mainly due to its self-stratifying or self-gradating property. Although the invention is not limited to what is disclosed in the specification, with respect to the self-stratifying or self-gradating property of the photocatalyst composition, attention is drawn to, for example, the following excerpts:

> As explained above, in the photocatalyst composition of the present invention, modified photocatalyst (A), which is obtained by a modification treatment with modifier compound (b) comprising a structural unit having a **very small** surface energy (i.e., a structural unit represented by any of formulae (1) to (3)), is used **in combination with binder component (B)** which comprises a phenyl group-containing silicone (BP) having a surface energy **larger than** that of modified photocatalyst (A). By virtue of the use of such a binder component, the photocatalyst composition of the present invention exhibits **a self-stratifying or self-gradating property** with re-

spect to the distribution of modified photocatalyst (A). In the present invention, the term "self-stratifying or self-gradating property" is defined as follows. When the photocatalyst composition of the present invention is formed into a film or a shaped article, during the shaping of the photocatalyst composition, the modified photocatalyst particles (A) in the photocatalyst composition are **autonomously distributed to form a structure having a concentration gradient** of the modified photocatalyst particles, wherein the autonomous distribution occurs in accordance with the properties (especially hydrophilicity or hydrophobicity) of a surface contacting the film or the shaped article. Such ability of the photocatalyst composition to form a concentration gradient of the modified photocatalyst particles (A) is called the "self-stratifying or self-gradating property" of the photocatalyst composition.

The above-mentioned self-stratifying or self-gradating property is **imparted by the use of a phenyl group-containing silicone (BP)** having a large surface energy.

Page 64, line 8 to page 65, line 16 of the present specification. Emphasis added

When there is a difference in the properties (especially hydrophilicity and hydrophobicity) as between the film or shaped article and the surface which is in contact with the film or shaped article, the concentration gradient is formed in accordance with the level of the difference. Specifically, the concentration of the modified photocatalyst particles (A) forms a gradient from one surface of the film toward the other surface of the film or a gradient from the inner portion of the shaped article toward the surface of the shaped article.

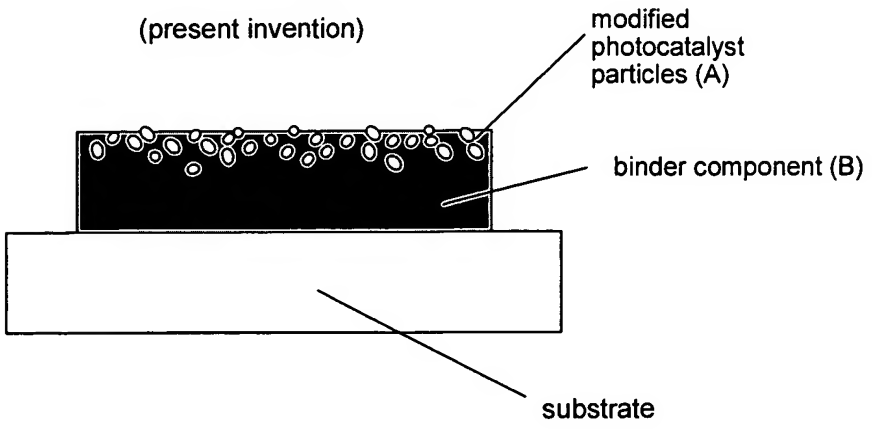
For example, when a photocatalyst composition having the above-mentioned self-stratifying or self-gradating property is coated on a substrate to thereby obtain a film, the obtained film has a stratified or gradated structure in which the modified photocatalyst particles have a concentration gradient in the thicknesswise direction of the film, wherein the **concentration** of the modified photocatalyst particles **increases from a surface** of the film which contacts the substrate **toward the other, exposed surface** of the film which is not in contact with the substrate (e.g., toward the surface of the film which is exposed to the air).

Page 83, line 13 to page 84, line 9 of the present specification. Emphasis added

For easier understanding of the above-described **self-stratifying or self-gradating property** of the photocatalyst composition, the Applicants wish to show below **Fig. A**, which is a diagrammatic cross-sectional view of an example of the functional composite wherein, by virtue of the **self-stratifying or self-gradating property,** the concentra-

tion of the modified photocatalyst particles (A) **increases from** a surface (lower) of the film which contacts the substrate **toward** the other, exposed surface (upper) of the film.

Fig. A



As seen from Fig. A above, by virtue of the **self-stratifying or self-gradating property** of the photocatalyst composition, the functional composite is advantageous in that the modified photocatalyst particles in the film do **not** contact the substrate, thereby **removing** the problem that the substrate is decomposed by the action of the photocatalyst. Therefore, with the photocatalyst composition, it may not be necessary to use an undercoat layer (protecting a substrate), and hence is very advantageous over many conventional techniques (such as the below-described Kanamori et al. reference) which need an undercoat layer for protecting a substrate.

The use of the **binder component (B)** (comprising the phenyl group-containing silicone (BP)) is **especially important**. Although the claims are not limited to what is disclosed in the specification, with respect to the properties of the **binder component (B)** (comprising the phenyl group-containing silicone (BP)), the present specification has the following description:

> The phenyl group-containing silicone (BP) exhibits excellent adhesion to organic substrates (such as organic resins), and the siloxane linkage (-O-Si-) which constitutes the skeleton of the phenyl group-containing silicone (BP) is insusceptible to the oxidative decomposition by the photocatalytic activity. Therefore, a functional composite obtained by coating on a substrate the photocatalyst composition of the present invention, and a shaped article obtained from the photocatalyst composition of the present invention have excellent weathering resistance.

Page 66, lines 14 to 24 of the present specification) emphasis added.

(II-2) Data showing the **excellent effects**:

In the photocatalyst composition, the **binder component (B)** (comprising the **phenyl group**-containing silicone) (used in combination with the **modified photocatalyst particles (A)**) as recited in claim 1 of the present application is **critical** for exhibiting the **self-stratifying or self-gradating property,** which leads to the above-mentioned **excellent effects** of the photocatalyst composition, i.e., the effects that it can be used to produce a functional composite which is advantageous in that it is **free from deterioration** occurring at the interface between the substrate and the photocatalyst-containing film and free from deterioration of the binder component in the photocatalyst-containing film, and in that it exhibits an excellent balance of hardness and flexibility (impact resistance), and it has **excellent durability** such that the surface of the functional composite exhibits, by light irradiation,

a water contact characteristic (i.e., hydrophilicity or hydrophobicity) and/or maintains such photocatalyst activity for a long time.

In order to substantiate this contention of the Applicants, the Applicants have made observations, with reference to **Examples 1 and 2** and **Comparative Examples 1 to 3** of the present specification, to show that the **binder component (B)** (comprising the **phenyl group**-containing silicone) (used in combination with the **modified photocatalyst particles (A)**) as recited in claim 1 of the present application is **critical** for exhibiting the **self-stratifying or self-gradating property,** which leads to the above-mentioned **excellent effects**. The method and results are as described in the **Exhibit** of the accompanying executed **Dr. Akira NAKABAYASHI Declaration**.

As observed in detail in the **Exhibit** of the accompanying **Dr. Akira NAKABAYASHI Declaration,** the data of **Example 1** and **Comparative Examples 1 and 3** of the present specification are as summarized in Table A below.

Table A

		Example 1 (present invention)	Comparative Example 1	Comparative Example 3
photocatalyst composition	Type of **photocatalyst**	**modified** photocatalyst	***un**modified* photocatalyst	**modified** photocatalyst
	Type of **binder component**	**phenyl group**-containing binder component (B-1)	**phenyl group**-containing binder component (B-1)	binder component (B-3) containing ***no** phenyl group*
self-stratifying or self-gradating property		**exhibited**	**not** exhibited	**not** exhibited
photocatalyst activity *)		**excellent** (symbol: ◎)	**poor** (symbol: ×)	**poor** (symbol: ×)
weathering resistance		**excellent** (gloss retention value was **as high as 98 %**)	**very poor** (gloss retention value was **as low as 10 %** or less, and a **chalking** was observed)	**extremely poor** (the film **peeled off** from the substrate)

Note *): As mentioned in the Exhibit of Dr. Nakabayashi Declaration, simply stated, the method for evaluating the photocatalyst activity (described at page 105, lines 6 to 23 of the present specification) is a method in which the photocatalyst activity to decompose methylene blue is tested and evaluated using the following 3 criteria:

◎ : methylene blue is completely decomposed;
Δ: blue color of methylene blue slightly remains; and
×: almost no decomposition of methylene blue is observed.

Thus, as seen from Table A above, in **Example 1** of the present application (using the **binder component (B)** (comprising the **phenyl group**-containing silicone) in combination with the **modified photocatalyst particles (A),** as required by **claim 1** of the present application), it is found that the **self-stratifying or self-gradating property** is exhibited; the **photocatalyst activity** is **excellent** (evaluation symbol: ◎); and the gloss retention value is **as high as 98 %,** indicating **excellent** weathering resistance.

By contrast, In **Comparative Example 1** of the present application (which does **not** satisfy the component (A) requirement of **claim 1** of the present application), it is found that the self-stratifying or self-gradating property is **not** exhibited; the **photocatalyst activity** is **poor** (evaluation symbol: ×); and the gloss retention value was **as low as 10 % or less,** and a **chalking** was observed, indicating **very poor** weathering resistance.

Likewise, in **Comparative Example 3** of the present application (which does **not** satisfy the component (B) requirement of **claim 1** of the present application), it is found that the self-stratifying or self-gradating property is **not** exhibited; the **photocatalyst activity** is **poor** (evaluation symbol: ×); and when the weathering resistance test is performed using a Dewpanel light control weather meter, the film **peeled off** from the substrate, indicating **extremely poor** weathering resistance.

Thus, from the **Exhibit** of the accompanying **Dr. Nakabayashi Declaration**, it can be fairly concluded that the **binder component (B)** (comprising the **phenyl group**-containing silicone) (used in combination with the **modified photocatalyst particles (A)**) as recited in claim 1 of the present application is **critical** for exhibiting the **self-stratifying**

self-gradating property, which leads to the **excellent effects** of the photocatalyst composition.

Such excellent effects are quite **unexpected** from the prior art, since the prior art does **not** teach or suggest the combined use of **modified photocatalyst particles (A)** and **binder component (B)** (comprising the **phenyl group**-containing silicone) in claim 1 of the present application.

/II/ With regard to the item of Claim Objections

In the first paragraph of the item of "Claim Objections" at page 2 of the office action, the Examiner makes objections to claims 1, 3 to 6 and 12 because "some of these groups seem to be Markush groups of other claims but are not claimed in that manner."

The Examiner raises an objection regarding the use of Markush Groups. The undersigned telephoned the Examiner in an attempt to obtain clarification. However, the Examiner could not be reached. If problems remain, the Examiner is requested to provide clarification.

Further, in the second paragraph of the item of "Claim Objections", the Examiner makes objections to claims 14 to 25 "as being of improper dependent form for failing to further limit the subject matter of a previous claim."

With regard to the Examiner's objection regarding dependent claims not further limiting the independent claims, independent claim 1 is directed to a photocatalyst composition. Applicants submit that the dependENT claims are proper. Independent claim 1 does not limit the photocatalyst composition to any particular form. Dependent claims recite the

form, for example, claim 14 recites that the composition is formed as a film. Further, the term "composition" using the preamble of independent claim 1 is board enough to encompass the structures described in the dependent claims.

Other patents have issued with claims of this type. For example, attention is drawn to claim 14 of the present application, which reads: "The composition according to claim 1 or 2, **which is a film**." It should be noted that such claim wording of claim 14 is also found in the claims of **various U.S. Patents**, for example, claims 14 and 15 of U.S. Patent No. 5,215,860 and claims 3 and 5 of U.S. Patent No. US 6,558,783 B1.

More specifically, claims 14 and 15 of the above-mentioned U.S. Patent No. 5,215,860 read as follows:

> "14. The composition according to claim 13 which is a shaped article, coating, film, or photoresist.", and
> "15. The composition according to claim 1, which is a film, coating or photoresist."

Claims 3 and 5 of the above-mentioned U.S. Patent No. US 6,558,783 B1 read as follows:

> "3. The curable polyphenylene ether resin composition according to claim 1 or 2, which is a film.", and
> "5. The cured polyphenylene ether resin composition according to claim 4, which is a film."

For easy reference, the Applicants hereby submit copies of the front page and last page of U.S. Patent No. 5,215,860, and copies of the front page and 'column 31/32'-carrying page of U.S. Patent No. US 6,558,783 B1.

It is respectfully requested that the Examiner retract the objections to the claims.

/III/ With regard to the claim rejection under 35 U.S.C. 112

At page 2, line 3 from bottom to page 3, line 4 of the office action, claim 1 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. More specifically, the Examiner states as follows:

> "... incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The photocatalyst is undefined in the claim although defined in the specification. It is unclear what applicant's claimed structural units are attached to and whether or not they are polymeric in nature."
> (emphasis added)

Photocatalysts are well known in the art. The Applicants wish to respectfully state that there are many U.S. patents having claims in which photocatalysts are mentioned but **undefined**. For example, attention is drawn to the claims of **Kanamori et al.** (U.S. Patent No. US 6,756,124 B2) (cited reference). In the claims of Kanamori et al., photocatalysts are mentioned and **undefined**. Attention is also drawn to the claims of **Burnell-Jones** (U.S. Patent No. US 6,818,153 B2) (cited reference). In the claims of Burnell-Jones, photocatalysts are mentioned and **undefined**. It is believed that it is usual not to define photocatalysts in the claims of U.S. patents.

Therefore, the Applicants wish to respectfully ask the Examiner to withdraw the rejection under 35 U.S.C. 112.

/IV/ With regard to the item of Claims Analysis

In the item of "Claims Analysis" at page 3 of the office action, the Examiner states as follows:

> "The examiner is interpreting claims 1-21 as product by process claims and as such the patentability depends upon the product itself and not necessarily the process by which the product is produced, unless applicant comes forward with evidence establishing an unobvious difference between the claimed product and the prior art product. Examiner is treating claims 1-13 and 26 as product by process claims and as such patentability is determined based on the product produced." (emphasis added)

In view of the Examiner's above-quoted statement and in order to render more clear the meaning of the following expression in claim 1: "being prepared by subjecting particles of a photocatalyst (a) to a modification treatment with at least one modifier compound (b)", the Applicants have added new clam 27 which states that the modified photocatalyst particles (A) comprise the particles of a photocatalyst (a) and, immobilized thereon, the at least one modifier compound (b).

It is not believed that any of the claims of the present application should not be interpreted as product-by-process claims.

/V/ With regard to the claim rejection under 35 U.S.C.102 or 103

Claims 1 to 26 have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Kanamori et al. (U.S. Patent No. US 6,756,124 B2). More specifically, the Examiner states as follows:

> "See entire document. Kanamori, et al. disclose a composition comprising a photocatalyst (col.9, l. 62-col. 10, l.5-TiO2 col. 10, l. 4-6) and (a) organosilanes (R1)nSi(OR2)4-n defined in column 3, lines 55-63. Because n can be 2, it meets the primary limitation for structures (a) wherein alkoxysilanes and dialkoxysilanes are preferred (col.5, l. 19-col. 6, l. 65) or wherein a monovalent organic group comprising phenyl is disclosed (col. 5, l. 47). The compound (b) silicone containing phenyl and optionally containing alkyl (col. 8, l. 10-60) which may be used either alone or as a mixture of 2 or more (col. 9, l. 12-13).... ....." (emphasis added)

Traverse is made as follows.

As described below, the photocatalyst composition of the present invention has novelty and non-obviousness over Kanamori et al.

It is conceded that, in Kanamori et al., a phenyl is recited as an example of a substituent group for use in a binder polymer.

However, the following should be noted.

First, attention is drawn to fact that, in Kanamori et al., a phenyl group is only mentioned side by side with a large number of other examples of substituent groups, without any suggestion of preference for a phenyl group. This is quite apparent from the following descriptions of Kanamori et al.:

> In general formula (1), the monovalent organic groups of R1 each having 1 to 10 carbon atoms include, for examples, alkyl grups such as methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, sec-butyl, t-butyl, n-hexyl, n-heptyl, n-octyl and 2-ethylhexyl; acyl groups, such as acetyl, proprionyl, butyryl, valeryl, benzoyl, toluoyl and carproyl; a vinyl group; an aryl group; a cyclohexyl group, a phenyl group; an epoxy group, a glycidyl group; a (meth)acryloxy group; an ureido group; an amido group; a fluoroacetoamido group; an isocyanate group; and their substituent derivatives.

Column 5, lines 41 to 50 of Kanamori et al. Emphasis added.

> In the above-mentioned siloxane oligomers, the functional groups introduced into the ends or the side chains of the siloxanes include groups represented by -(RO)p-(R'O)q-R" (wherein R and R', which may be the same or different, represent alkyl groups each having 1 to 5 carbon atoms, R" represents a hydrogen atom or an alkyl group having 1 to 5 carbon atoms, and p+q is from 2 to 30), as well as a hydroxyl group, halogen atoms and organic groups each having 1 to 15 carbon atoms (such as alkyl, acyl, alkoxyl, alkoxysilyl, vinyl, allyl, acetoxyl, acetoxysilyl, cycloalkyl, phenyl, glycidyl, (meth)acryloxy, ureido, amido, fluoroacetamido and isocyanate group).

Column 8, lines 21 to 32 of Kanamori et al. Emphasis added.

Thus, in Kanamori et al., a phenyl group is only mentioned among a large number of examples of substituent groups, without any suggestion of preference for a phenyl group. Kanamori et al. place no emphasis on phenyl. This means that, in Kanamori et al., a phenyl group is equated with a large number of other examples of substituent groups. In Kanamori et al., a phenyl group is not recognized to have any advantageous property over any of the various other examples of substituent groups.

In addition, attention is also drawn to the fact that Kanamori et al. have no Working Example which uses a binder polymer having a phenyl group as a substituent group. (This shows that, rather, phenyl is not preferred as a substituent group in Kanamori et al.)

Thus, it is quite apparent that phenyl is not important at all in Kanamori et al.

In this connection, it should be noted that, as described in detail in item (II-2) above, the binder component (B) (comprising the phenyl group-containing silicone) (used in combination with the modified photocatalyst particles (A)) as recited in claim 1 of the present application is critical for exhibiting the self-stratifying or self-gradating property, which leads to the above-mentioned excellent effects of the photocatalyst composition, i.e., the effects that it can be used to produce a functional composite which is advantageous in that it is free from deterioration occurring at the interface between the substrate and the photocatalyst-containing film and free from deterioration of the binder component in the photocatalyst-containing film, and in that it exhibits an excellent balance of hardness and flexibility (impact resistance), and it has excellent durability such that the surface of the functional composite exhibits, by light irradiation, a water contact characteristic (i.e., hydrophilicity or hydrophobicity) and/or maintains such photocatalyst activity for a long time.

Therefore, it is apparent that the photocatalyst composition (in which the binder component (B) comprising the phenyl group-containing silicone has a critical importance) cannot be taught or suggested by the disclosure of Kanamori et al. in which phenyl is not important at all.

The present invention cannot be easily reached from the disclosure of Kanamori et al. taken in any respect.

Further, the following should be noted.

Applicant's photocatalyst composition is far superior to the photocatalyst composition of Kanamori et al. This point is described below.

In the technique of Kanamori et al., for the purpose of preventing deterioration of a substrate (caused by the action of a photocatalyst), it is necessary to interpose an undercoat layer between a photocatalyst-containing film and a substrate. This is quite apparent from, for example, the below-quoted descriptions of Kanamori et al. (which are part of very detailed explanations of "undercoating compositions (i) to (iv)"):

> "..... However, **for preventing deterioration of substrates** caused by photocatalysts and further obtaining coating substrates also excellent in long-term durable adhesion, it is desirable to undercoat the following undercoating compositions (i) to (iv) on the substrates.
> Composition (i):
> ....
> ....
> ....
> Composition (ii):
> ....
> ....
> ....
> Composition (iii):
> ....
> ....
> ....
> Composition (iv):

....
....
...."

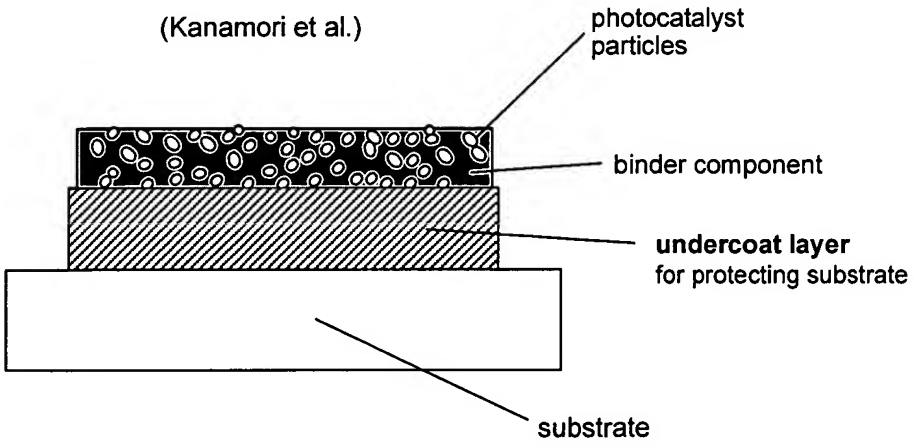
Column 24, lines 35 to 64 of Kanamori et al. Emphasis added.

It should be noted that such undercoat layers are used in **all** Working Examples of Kanamori et al.

Therefore, it is apparent that undercoat layer is **necessary** in Kanamori et al. For easier understanding, a diagrammatic cross-sectional view of the [catalyst-containing film/**undercoat layer**/substrate] ternary laminate of Kanamori et al. is shown in **Fig. B** below:

Fig. B

(Kanamori et al.)



By contrast, as described above in detail and as illustrated in **Fig. A** above (see **item (II-1)**), by virtue of the **self-stratifying or self-gradating property** of the photocatalyst composition described in the application, the functional composite is advantageous in that the modified photocatalyst particles in the film do **not** contact the substrate. Therefore,

use of the photocatalyst composition does **not** need an undercoat layer (protecting a substrate), and hence is very advantageous over the Kanamori et al. reference which needs an undercoat layer for protecting a substrate.

Thus, the photocatalyst composition of the present invention is far **superior** to the photocatalyst composition of Kanamori et al.

From the above, it is quite apparent that Kanamori et al. do **not** teach or suggest the essential features of the present invention or the excellent effects thereof.

Therefore, it is firmly believed that the photocatalyst composition of claim 1 of the present application has both **novelty and non-obviousness** over the disclosure of Kanamori et al.

It is submitted that the prior art rejection should be withdrawn.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: July 24 2006 By: MJHenry

Mark J. Henry
Registration No. 36,162

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

CERTIFICATE UNDER 37 CFR 1.8(a)
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on July 24, 2006
STAAS & HALSEY
By N. Keller
Date: July 24, 06